

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:**1-2. (canceled)**

3. **(currently amended)** An optical characteristic measuring apparatus for measuring [[the]] characteristics of devices under test having [[the]] a first optical transmission line letting light through only in [[one]] a first direction and [[the]] a second optical transmission line letting light through only in [[the]] a second direction opposite to said [[one]] first direction, said apparatus comprising:

a first variable wavelength light source for generating [[the]] a first variable wavelength light, ~~the wavelength of which is variable;~~

a first light modulating element [[means]] for introducing [[onto]] into said first optical transmission line [[the]] a first incident light obtained by modulating said first variable wavelength light with a [[by the]] frequency of a first electrical signal, wherein said first incident light exits from said first optical transmission line as a first outgoing light ~~signals inputted;~~

a first optical/electrical converting element [[means]] for converting, by [[the]] a first optical/electrical conversion process, the first outgoing light into a second electrical signal ~~having penetrated said first optical transmission line;~~

a second variable wavelength light source for generating [[the]] a second variable wavelength light, ~~the wavelength of which is variable;~~

a signal source for generating a reference electrical signal ~~signals of given frequencies;~~

a second light modulating element [[means]] for introducing into the second optical transmission line [[the]] a second incident light obtained by modulating said second variable wavelength light with ~~by the frequency of said reference electrical signals~~ signal, wherein said second incident light exits from said second optical transmission line as a second outgoing light;

and

a second optical/electrical converting element ~~[[means]]~~ for converting, by ~~[[the]]~~ a second optical/electrical conversion process, the second outgoing light into the first electrical signal ~~having penetrated said second optical transmission line~~ and for outputting the first electrical signal into ~~converted second outgoing light onto~~ said first light modulating element ~~[[means]]~~.

4. **(currently amended)** The optical characteristic measuring apparatus according to claim ~~[[2]]~~ 3, further comprising a third optical/electrical converting element ~~[[means]]~~ for converting, by ~~[[the]]~~ a third optical/electrical conversion process, ~~[[the]]~~ a reflected light, which is generated when said second light modulating element ~~[[means]]~~ introduces said second incident light into said second optical transmission line, into a third electrical signal.

5. **(currently amended)** The optical characteristic measuring apparatus according to claim ~~[[1]]~~ 3, further comprising:

a phase comparing element ~~[[means]]~~ for measuring ~~[[the]]~~ a phase difference between a phase of the second electrical signal output ~~signals for measurement outputted~~ by said first optical/electrical converting element ~~[[means]]~~ and a phase of said reference electrical ~~signals~~ signal; and

a characteristic computing element ~~[[means]]~~ for computing ~~[[the]]~~ a group delay characteristic or ~~[[the]]~~ a dispersion characteristic of the devices under test by using said phase difference.

6. **(currently amended)** The optical characteristic measuring apparatus according to claim 4, further comprising:

a phase comparing element ~~[[means]]~~ for measuring ~~[[the]]~~ a phase difference between a phase of the third electrical signals ~~signal output for reflection measurement outputted~~ by said third optical/electrical converting element ~~[[means]]~~ and a phase of said reference electrical ~~signals~~ signal; and

a characteristic computing element ~~[[means]]~~ for computing ~~[[the]]~~ a group delay

characteristic or ~~[[the]]~~ a dispersion characteristic of the devices under test by using said phase difference.

7-11. (canceled)

12. **(currently amended)** An optical characteristic measuring apparatus for measuring ~~[[the]]~~ characteristics of devices under test having ~~[[the]]~~ a first optical transmission line letting light through only in ~~[[one]]~~ a first direction and ~~[[the]]~~ a second optical transmission line letting light through only in ~~[[the]]~~ a second direction opposite to said ~~[[one]]~~ first direction, said apparatus comprising:

~~a first~~ an optical/electrical converting element ~~[[means]]~~ for converting, by ~~[[the]]~~ an optical/electrical conversion process, an ~~the first~~ outgoing light, which has ~~having~~ penetrated and exits from said first optical transmission line, into an electrical signal;

a ~~second~~ variable wavelength light source for generating ~~[[the]]~~ a ~~second~~ variable wavelength light, ~~the wavelength of which is variable~~;

a signal source for generating a reference electrical ~~signals~~ signal ~~of given frequencies~~; and

a ~~second~~ light modulating element ~~[[means]]~~ for introducing into said second optical transmission line ~~the second~~ an incident light obtained by modulating said ~~second~~ variable wavelength light with ~~by the frequency of~~ said reference electrical ~~signals~~ signal.

13-14. (canceled)

15. **(currently amended)** An optical characteristic measuring method ~~[[for]]~~ of measuring ~~[[the]]~~ characteristics of devices under test having ~~[[the]]~~ a first optical transmission line letting light through only in ~~[[one]]~~ a first direction and ~~[[the]]~~ a second optical transmission line letting light through only in ~~[[the]]~~ a second direction opposite to said ~~[[one]]~~ first direction, said method comprising:

~~a first variable wavelength light generating step for generating~~ ~~[[the]]~~ a first variable wavelength light, ~~the wavelength of which is variable~~;

~~a first light modulating step for~~ introducing into [[onto]] said first optical transmission line [[the]] a first incident light obtained by modulating said first variable wavelength light ~~by the frequency of~~ with a first electrical signal, wherein said first incident light signals inputted exits from said first optical transmission line as a first outgoing light;

~~a first optical/electrical converting step for~~ converting, by [[the]] a first optical/electrical conversion process, the first outgoing light ~~having penetrated said first optical transmission line into a second electrical signal;~~

~~a second variable wavelength light generating step for~~ generating [[the]] a second variable wavelength light , the wavelength of which is variable;

~~a signal generating step for~~ generating a reference electrical signals signal of given frequencies;

~~a second light modulating step for~~ introducing into the second optical transmission line [[the]] a second incident light obtained by modulating said second variable wavelength light ~~with by the frequency of~~ said reference electrical signals signal, wherein said second incident light exits from said second optical transmission line as a second outgoing light; and

~~a second optical/electrical converting step for~~ converting, by [[the]] a second optical/electrical conversion process, the second outgoing light ~~having penetrated said second optical transmission line and for outputting~~ and using the converted second outgoing light as the first electrical signal in the ~~onto said first light modulating step of~~ modulating said first variable wavelength light to obtain the first incident light.

16-20. (canceled)

21. **(currently amended)** An optical characteristic measuring method [[for]] of measuring [[the]] characteristics of devices under test having [[the]] a first optical transmission line letting light through only in [[one]] a first direction and [[the]] a second optical transmission line letting light through only in [[the]] a second direction opposite to said [[one]] first direction, said method comprising:

~~a first optical/electrical converting step for~~ converting, by [[the]] an optical/electrical conversion process, [[the]] a first outgoing light, which has ~~having~~ penetrated and exits from said

first optical transmission line, into an electrical signal;

~~a second variable wavelength light generating step for generating the second a variable wavelength light , the wavelength of which is variable;~~

~~a signal generating step for generating a reference electrical signals signal of given frequencies;~~

~~a second light modulating step for introducing into said second optical transmission line the second an incident light obtained by modulating said second variable wavelength light with by the frequency of said reference electrical signals signal.~~

22-23. (canceled)

24. **(currently amended)** A computer-readable medium having a program of instructions for execution by ~~[[the]]~~ a computer to perform an optical characteristic measuring process ~~[[for]]~~ of measuring ~~[[the]]~~ characteristics of devices under test having ~~[[the]]~~ a first optical transmission line letting light through only in ~~[[one]]~~ a first direction and ~~[[the]]~~ a second optical transmission line letting light through only in ~~[[the]]~~ a second direction opposite to said ~~[[one]]~~ first direction, said optical characteristic measuring process comprising:

a first variable wavelength light generating processing for generating ~~[[the]]~~ a first variable wavelength light , ~~the wavelength of which is variable;~~

a first light modulating processing for introducing ~~[[onto]]~~ into said first optical transmission line ~~[[the]]~~ a first incident light obtained by modulating said first variable wavelength light ~~by the frequency of~~ with a first electrical signals inputted signal, wherein the first incident light exits from said first optical transmission line as a first outgoing light;

a first optical/electrical converting processing for converting, by ~~[[the]]~~ a first optical/electrical conversion process, the first outgoing light ~~having penetrated said first optical transmission line~~ into a second electrical signal;

a second variable wavelength light generating processing for generating ~~[[the]]~~ a second variable wavelength light , ~~the wavelength of which is variable;~~

a signal generating processing for generating a reference electrical signals signal of given frequencies;

a second light modulating processing for introducing into the second optical transmission line ~~[[the]]~~ a second incident light obtained by modulating said second variable wavelength light ~~by the frequency of~~ with said reference electrical ~~signals~~ signal, wherein the second incident light exits from said second optical transmission line as a second outgoing light; and

a second optical/electrical converting processing for converting, by ~~[[the]]~~ a second optical/electrical conversion process, the second outgoing light ~~having penetrated said second optical transmission line and for outputting~~ and using the converted second outgoing light as the first electrical signal in the ~~onto said first light modulating step of modulating said first variable wavelength light to obtain the first incident light.~~

25-29. (canceled)

30. **(currently amended)** A computer-readable medium having a program of instructions for execution by ~~[[the]]~~ a computer to perform an optical characteristic measuring process ~~[[for]]~~ of measuring ~~[[the]]~~ characteristics of devices under test having ~~[[the]]~~ a first optical transmission line letting light through only in ~~[[one]]~~ a first direction and ~~[[the]]~~ a second optical transmission line letting light through only in ~~[[the]]~~ a second direction opposite to said ~~[[one]]~~ first direction, said optical characteristic measuring process comprising:

a first optical/electrical converting processing for converting, by ~~[[the]]~~ an optical/electrical conversion process, a ~~[[the]]~~ first outgoing light, which has ~~having~~ penetrated and exits from said first optical transmission line, into an electrical signal;

a second variable wavelength light generating processing for generating ~~the second~~ a variable wavelength light, ~~the wavelength of which is variable~~;

a signal generating processing for generating a reference electrical ~~signals~~ signal ~~of given frequencies~~;

a second light modulating processing for introducing into said second optical transmission line an ~~the second~~ incident light obtained by modulating said ~~second~~ variable wavelength light ~~by the frequency of~~ with said reference electrical ~~signals~~ signal.

31. **(new)** An optical characteristic measuring apparatus for measuring characteristics of devices under test having a first optical transmission line letting light through only in a first direction and a second optical transmission line letting light through only in a second direction opposite to said first direction, said apparatus comprising:

a first variable wavelength light source for generating a first variable wavelength light;

first light modulating means for introducing into said first optical transmission line a first incident light obtained by modulating said first variable wavelength light with a first electrical signal, wherein said first incident light exits from said first optical transmission line as a first outgoing light;

first optical/electrical converting means for converting, by a first optical/electrical conversion process, the first outgoing light into a second electrical signal;

a second variable wavelength light source for generating a second variable wavelength light;

a signal source for generating a reference electrical signal;

second light modulating means for introducing into the second optical transmission line a second incident light obtained by modulating said second variable wavelength light with said reference electrical signal, wherein said second incident light exits from said second optical transmission line as a second outgoing light; and

second optical/electrical converting means for converting, by a second optical/electrical conversion process, the second outgoing light into the first electrical signal and for outputting the first electrical signal into said first light modulating means.

32. **(new)** An optical characteristic measuring apparatus for measuring characteristics of devices under test having a first optical transmission line letting light through only in a first direction and a second optical transmission line letting light through only in a second direction opposite to said first direction, said apparatus comprising:

optical/electrical converting means for converting, by an optical/electrical conversion process, an outgoing light, which has penetrated and exits from said first optical transmission line, into an electrical signal;

a variable wavelength light source for generating a variable wavelength light;

a signal source for generating a reference electrical signal; and

light modulating means for introducing into said second optical transmission line an incident light obtained by modulating said variable wavelength light with said reference electrical signal.